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REPORT OF THE ROYAL ONTARIO MUSEUM OF ZOOLOGY

October 1st, 1946 - September 30th, 1947.

Research and service, especially to the University and the Ontario Department of Lands and Forests have increased during the past year but new exhibits in the public galleries have not been similarly expanded.

Messrs. Oughton, Neilsen and Prince who resigned during the previous year have been replaced by four assistants. Three of these, L. Walden, E. H. Taylor and Archie Reid, are juniors who are being trained to assist in the mammal, fish and preparation division respectively. The fourth addition to the staff, Geo. Pyzer, is to be general assistant.

Our librarian, Miss Eleanor Hawkins, resigned during the year, and it has not yet been possible to replace her except on a temporary and part-time basis. Funds available are not sufficient to attract a trained librarian.

Increase in the Museum's research activities has been made possible by a grant from the Ontario Research Commission and continuation of the Carling Conservation Club's grant for a study of the moose and the maskinonge.

ACCESSIONS

The number of specimens added in the various groups during the past year is as follows:

	<u>Donated</u>	<u>Collected</u>	<u>Purchased</u>	<u>Exchanged</u>	<u>Total</u>
Mammals	341	436	2	8	787
Birds	340	514	105	16	975
Nests and sets of eggs	8	1	3	0	12
Reptiles	12	1	0	0	13
Amphibians	58	19	0	0	77
Fish	84	345	0	0	429
Insects	58	1340	0	0	1398
Spiders	103	2300	0	0	2403

DONATIONS of interest or importance were received from the following:

Gibson, Geo., Sheguindah, Ontario - pair of passenger pigeons.
Tracy, Mrs. E. B., 139 E 79th St. New York, - a passenger pigeon.
National Parks Bureau, Ottawa - trumpeter swan.
Stirrett, Dr. G. M., Chatham, Ont. - 94 bird skins.
Ontario Department of Lands and Forests - 217 specimens of mammals including a number of complete specimens, also hides and skulls of otter, fisher, mink, beaver, bobcat, raccoon.
Lindsey, C. C., 43 McKenzie Ave., Toronto - 56 small mammals from Quetico Park, an area not well represented in our collection.
Blackburn, Harry, R. R. 1, Chatham - An Ontario opossum.

Glennie, W., Hudson Bay Post Manager, Pagna River, Ont. - Bobcat hide from
Cochrane District well north of its previously known range.
Allin, A. E. Dr., Fort William, Ont. - 11 lots of fish.
Rawson, D. S. Dr., Fisheries Research Board of Canada, Saskatoon - 28 lots of
fish.
Shortt, T. M., R. O. M. Z. - 23 bird skins collected in Mexico on his vacation.

PURCHASED specimens included:

33 bird skins from Quebec from Robert Elliott, Tomifobia, P. Q. and
57 bird skins from east coast of Hudson Bay from T. H. Manning, Ottawa.

COLLECTING by staff members has added far more specimens to our study
collections than for several years past. This was made possible by the research
grants from the Ontario Research Commission and the Carling Conservation Club.

LIBRARY

	<u>Donated</u>	<u>Purchased</u>	<u>Total</u>
Bound volumes	18	32	50
Pamphlets	315	5	320
Unbound periodicals	790	144	934

ROUTINE WORK WITH COLLECTIONS.

As the research collections increase in size their routine care requires
more and more attention. The care of such collections is however, one of the
basic responsibilities of a museum.

It is not always possible immediately to catalogue and incorporate into the
research collections specimens acquired by donation, collection or otherwise.
During the past year the following numbers have been labelled, catalogued,
incorporated.

Birds	1049
Fish	151
Insects	2054
Spiders	338 lots (1387 specimens)

The following specimens have been prepared in the laboratories during the
year:

Mammals	84
Mammal skeletons	9
Mammal skulls	246
Birds	240
Bird skeletons	19

The fish collection which has been virtually neglected for several years
is being thoroughly overhauled, cleaned and rearranged. This has been made
possible by the appointment of W. B. Scott as acting curator and E. H. Taylor
as assistant.

IDENTIFICATION OF SPECIMENS

Mammals	31
Birds	hundreds
Reptiles and amphibians	54
Fish	52 lots (560 individual specimens)
Insects	302
Spiders	13 lots (98 specimens)

The above list of specimens identified gives little idea of the kinds or of the variety of people for whom identifications are made. The latter include the Department of Lands and Forests (pelts and skulls sent for wolf bounty), Royal Ontario Museum of Archaeology (bones from Indian village sites), Manitoba Department of Mines and Natural Resources and Federal Department of Fisheries (fishes), Federal Department of Agriculture (Entomological Service) (spiders), Macdonald College, McGill University (spiders), University students, teachers, naturalists, housewives (household insects), boys (bones, mammals, birds, etc. found), etc., etc.

FIELD WORK

Surveys

Messrs. T. M. Shortt, C. E. Hope, L. A. Walden and Mr. W. Watson (temporary assistant) made collections of mammals, birds and insects at three stations along the western Ontario portion of the Transcontinental Railway (Nakina, Sioux Lookout and Malachi). This work was a continuation of the museum's long-term survey of the Province. Specimens secured and observations made add considerably to our understanding of the distribution of animal life in Ontario and bears specifically on the penetration of western elements in the north. Total of 170 mammal specimens, 436 birds and about 4000 insects were secured. Also a collection of animal parasites from specimens was preserved.

Ecology, Taxonomy and Life History

Mr. Snyder continued his annual census survey of the vertebrate population on a 3 $\frac{1}{2}$ acre plot in King Township. Seventy-six birds attracted to or products of the area were banded and some returns were secured of individuals marked in previous years. Information on both the genetics and marital relationship of a bird population is being sought.

Dr. Urquhart spent two months in field study and collecting insects. His investigations concern the life histories of grasshoppers and the taxonomic relationships of crickets. These studies are of both economic and theoretical biological importance.

Dr. Urquhart also directed the collection of parasites by those carrying out field studies in various parts of the Province, and supervised the preparation of these for study. Under a grant from the Ontario Research Commission the museum plans to develop a collection of parasites of Ontario animals for study and reference. The study of parasites is a most important part of the broad programme of wildlife investigations now taking shape in Ontario. The museum's part of the parasites study is the accumulation, care and study of a collection.

Mr. Scott continued his taxonomic and population study of the Lake Erie ciscoes under a grant from the Ontario Research Commission.

Mr. R. L. Peterson continued the study of the ecology of the moose in Ontario begun in 1946. The study this season was carried out on St. Ignace Island, Lake Superior where there is an unusually large population of moose. This study is supported by the Carling Conservation Club Fund.

Mr. S. C. Downing, Victor Williamson and Mary Jackson (temporary assistants) expanded the population studies of small mammals which have been in progress in Algonquin Park for nine years. Trap lines for following populations, especially of Microtus the meadow mouse have been established near Toronto and on Manitoulin Island. When Microtus reaches peak numbers it causes considerable losses especially in orchards and to grain standing in fields. In forested regions small mammals have an influence not only on forest regeneration but on the animal life in the forest. An understanding of the factors affecting the population of small mammals is therefore of economic as well as of theoretical biological importance. The extension of this study was made possible by a grant from the Ontario Research Commission.

G. S. Cameron (temporary assistant) continued the taxonomic study of the maskinonge begun last year under the Carling Conservation Club Fund. The past summer was spent in central Ontario.

Mr. Baillie during his vacation again acted as bird instructor at the Federation of Ontario Naturalists' summer nature school.

SERVICE TO DEPARTMENT OF LANDS AND FORESTS

As mentioned in last year's report the amalgamation of the Department of Game and Fisheries with that of Lands and Forests and the reorganization of research and administration as it relates to fish and wildlife has resulted in the Department seeking much more assistance from the museum than was formerly the case.

Messrs. Hope, Peterson, Downing and Scott assisted in the instruction of the Department's field officers at their Rangers' School near Dorset.

Specimens of mammals, birds and fishes were loaned in connection with these courses of instruction.

The museum is assisting in the preparation of a teaching collection for use in these and similar courses. The Department is cooperating by supplying specimens in the flesh.

Students employed on summer field work for the Department were given instruction in the identification of mammals, birds and fish and other assistance in connection with problems on which they were to be employed.

Pelts and skulls of specimens sent for wolf bounty were identified.

Prof. Dymond initiated a study of certain fisheries problems on the Lake-of-the-Woods being undertaken by the Department.

Mr. Hope assisted during his vacation with bird population studies in Algonquin Park.

Mr. Baillie during his vacation carried out studies on the economic relations of double-crested cormorants on Georgian Bay and Lake-of-the-Woods at the request of the Department.

SERVICE TO THE UNIVERSITY OF TORONTO

Dr. Urquhart took over the lectures and laboratory formerly given the First Year Pass Zoology by Dr. Harkness during the second half of the academic year.

Messrs. Snyder, Urquhart, Peterson, Downing, Hope and Scott assisted with the Natural History courses offered in connection with the course in Institutional Management offered by the Department of University Extension.

Mr. Snyder assisted in the Systematics course offered IV year Honour Biology students.

Specimens were loaned for courses in systematics, ichthyology, animal geography, institutional management (Natural history) and wildlife management.

Several graduate students were given access to the collections and guidance in their study.

A. O. U. CONVENTION

The Sixty-fifth stated meeting of the American Ornithologists Union held in the museum from September 9th to 12th, 1947 was one of the best in the history of the Union. The attendance if not a record was a near record. Those attending came from nearly every province of Canada and half of the states of the United States. The local committee headed by Mr. Snyder received a host of expressions of appreciation for the excellence of the arrangements and attendance. Mr. Ommanney, whose business it was for many years to attend conventions on behalf of the Canadian Pacific Railway, said it was the best organized convention he had ever⁴⁴ attended.

PUBLICATIONS

The following have been added to the museum's series:

Contribution No. 28

The summer birds of Sudbury District, Ontario by J. L. Baillie and C. E. Hope.

Handbook No. 2 (Revised edition)

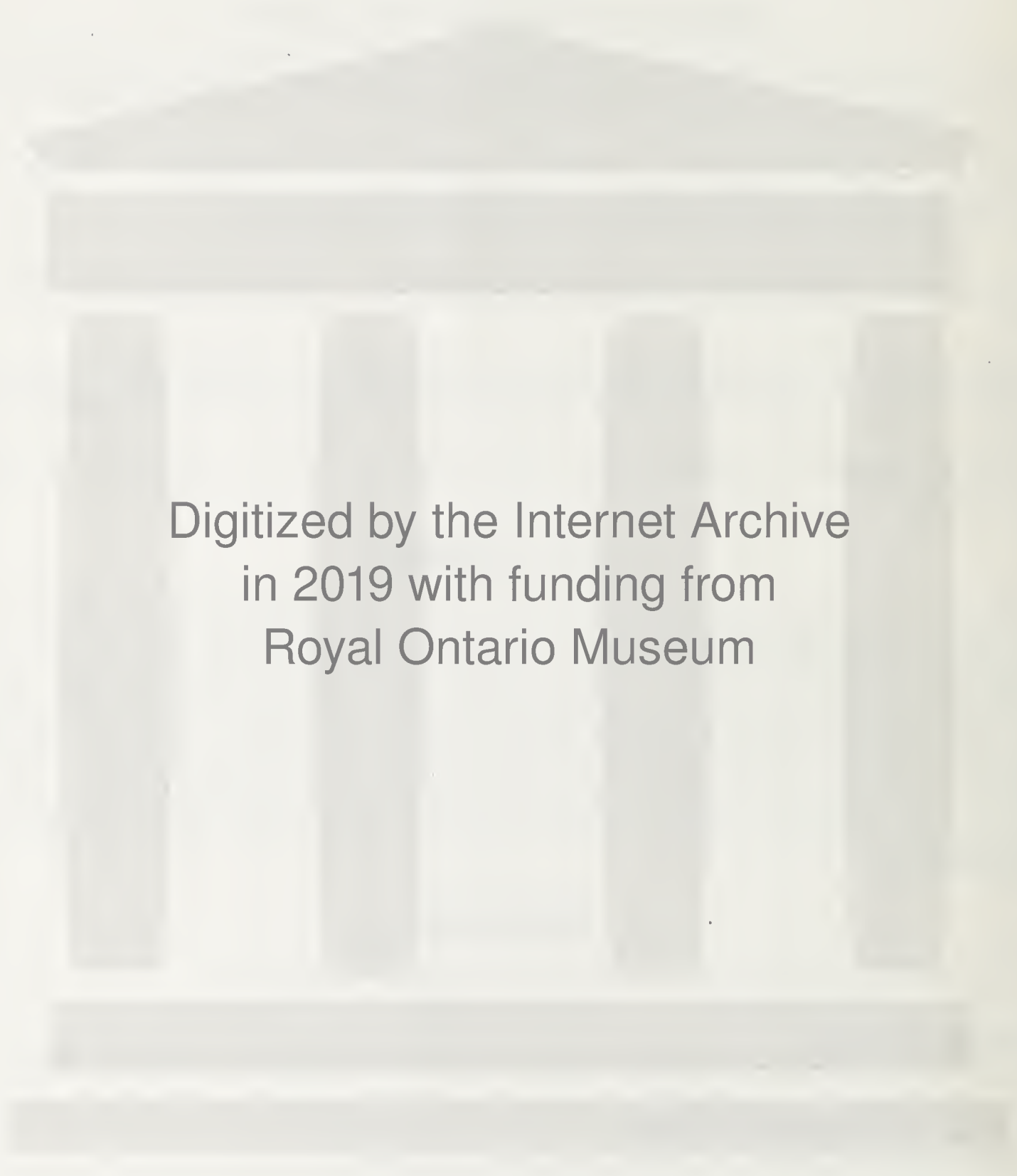
The hawks and owls of Ontario by L. L. Snyder.

Handbook No. 5

From egg to tadpole to frog by E. B. S. Logier.

Misc. Publ. No. 1

A list of the freshwater fishes of Canada east of the Rocky Mountains with keys by J. R. Dymond.



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Members of the staff have published the following:

- Baillie, J. L. Naturalists on Hudson Bay. Beaver. Dec. 1946. pp. 36-39.
Eric Graham McDougall. Auk. 64:180-181. 1947.
Prairie chickens in Ontario. Sylva. 3:49-51. 1947.
9000 miles - 90 days Trans-World Flights of the Arctic Tern.
Forest and Outdoors. Apr. 1947. 105-6.
Allan Brooks. Carling Conser. Digest. 1:2. 1947.
The Canada Goose. Carling Conser. Digest. 1:10. 1947.
The Cormorants double-crested fish-eaters are not guilty.
Forest and Outdoors. May, 1947: 139-40.
Stick-insect is low animal form but cancer study aid.
Forest and Outdoors. June, 1947: 171-2.
Ontario ferns - fighting house wrens - birds as policemen.
Forest and Outdoors. Aug. 1947:242.
The Double-crested cormorant nesting in Ontario. Can.
Field-Nat. 61:119-126. 1947.
- Baillie, J. L. and C. E. Hope. The summer birds of Sudbury District, Ontario.
R. O. M. Z. Cont. 28. pp. 32. 1947.
- Downing, S. C. Moose and wapiti. Can. Nature. 9:126-127. 1947.
Hoary marmot. Can. Nature. 8:140. 1946.
Animals of the plains. Can. Nature. 8:152-153. 1946.
The mountain lion. Can. Nature. 8:154. 1946.
Mammals of the mountains. Can. Nature. 9:30-31. 1947.
Respect these mammals. Can. Nature. 9:46-47. 1947.
Conservation and Canada's big game mammals. Carling
Conservation Club booklet. 1946.
- Dymond, J. R. General conclusions. pp. 86-94 in North West Canadian
Fisheries Surveys in 1944-1945. Fish. Res. Bd. Can.
Bull. 72. 1947.
Introduction. Ann. Rpt. Fish. Res. Bd. Can. for 1946. 1947.
Longevity of captive snails. Can. Field-Nat. 61:39. 1947.

Pollution studies in Britain. Can. Fish. Culturist.
1:30-31. 1947.

Wildlife management. Can. Nature. 9:113-121. 1947.

A list of the freshwater fishes of Canada east of the
Rocky Mountains with keys (mimeographed). R. O. M. Z.
Misc. Publ. No. 1. 1947.

Hope, C. E. The grasshopper sparrow in Peel County, Ontario. Can. Field-
Nat. 60:117. 1946.

Logier, E. B. S. From egg to tadpole to frog. Handbook 5. R. O. M. Z. 1947.

Peterson, R. L. Further observations on swimming and diving of meadow voles.
Jour. Mamm. 28:297-298. 1947.

A record of a timber wolf attacking a man. Jour. Mamm.
28:294-295. 1947.

Shortt, T. M. Colour plate of mountain lion. Can. Nature. 8:155.

Colour plate of downy young wandering tattlers. Wilson
Bull. Vol. 59, Frontispiece.

Snyder, L. L. "Tunnell fliers" and window fatalities. Condor. 48:278.
1946.

The snowy owl migration of 1945-46. (second report of the
snowy owl committee). Wilson Bull. 59:74-78. 1947.

The hawks and owls of Ontario. Handbook 2. R. O. M. Z.
(Revised edition). 1947.

PUBLICATIONS SOLD

Contributions	195
Leaflets	150
Occasional Papers	41
Handbooks	313
Check Lists	3800
Passenger Pigeon	25
Fresh Water Fishes	262

NUMBER OF PIECES MAILED

Letters	3189
Publications	424
Postcards	27
Parcels	71
Questionnaires	729
Miscellaneous	48

